

IN THE CLAIMS:

Please add the following new claims.

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2. In a communication system, a transceiver for transmitting and receiving signals comprising:
 - a modulator for providing a plurality of modulation methods;
 - an adaptive modulation selector coupled to said modulator for dynamically selecting an at least one modulation methods from the said plurality of modulation methods in response to a switching threshold; and
 - an optimizer for optimizing said switching thresholds in order to maximize throughput (TP).
 3. The transceiver of claim 2, wherein said optimizer is train by using an self-learning automaton.
 4. The transceiver of claim 3, wherein said switching thresholds are adapted as a result of a training technique performed on said automaton.
 5. A method for communicating in a communication system having a first communication station operable to transmit a signal modulated using at least one of a plurality of modulation methods comprising the steps of:
 - determining a switching threshold;
 - selecting a modulation method from the said plurality of modulation methods in response said switching threshold;
 - modulating said signal using said selected modulation methods;
 - and
 - transmitting said modulated signal.
 6. The method of claim 5 wherein determining a switching threshold step involves using a self-learning automaton wherein the output of said automaton represents a set of switching thresholds.
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